

Remarks

Priority Claim Correction

Before addressing the rejections, Applicant respectfully requests that the Examiner acknowledge that the present application claims priority under 35 U.S.C. 119(e) to provisional application 60/216,284 filed on July 6, 2000. Applicant claimed priority to this application on the November 17, 2000 Transmittal upon filing and reference to this claim is made on page 1 of the subject application. The Office Action Summary (PTO-326 form) incorrectly shows that box 15 was checked and not box 14, which should be checked.

Rejections Over Cited Art

Claims 1-30 were rejected. Specifically, claims 1-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,487,472 to Song et al. ("Song et al.") and claims 16-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of U.S. Patent No. 5,805,722 to Cullen et al. ("Cullen et al.").

Applicant has amended claims 11, 13-15, and 29, and has cancelled claim 12 without prejudice. No new matter has been added. Claims 1-11 and 13-30 are submitted for the Examiner's reconsideration. Withdrawal of the rejections to claims 1-11 and 13-30 in view of the amendments and following remarks is hereby respectfully requested.

A. Rejection of Claims 1-14 under 35 U.S.C. § 102(b):

Claims 1-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by Song et al. Song et al. describes a semiconductor device manufacturing facility having a diagnosis system for monitoring the operation states of various fabrication systems and controlling them in case of abnormal operation states using a sensing signal from the fabrication system and a control signal from the control system. The fabrication system outputs a sensing signal showing the operation states of the fabrication process, such as temperature, time, pressure, concentration, power, etc. The control system outputs a control signal to the fabrication systems for controlling their operation states. The diagnosis system analyses the sensing signal and the control signal to assess the operation states of the fabrication systems. See Abstract. The diagnosis system

includes a control means having an alarm part for outputting an alarm when an abnormal operation state is detected. Column 3, lines 3-12.

The present invention relates to the field of automated manufacturing and to programming systems for manufacturing operations. Independent claim 1 of the present invention recites a system for managing electronics manufacturing data that includes “a difference editor . . . to display differences between at least one of the electronic manufacturing data sets and the manufacturing standardization data.”

Applicant respectfully submits that Song et al. fails to describe “a difference editor” as that feature is recited in claim 1. The Examiner points to the text at column 8, lines 30-40 of Song et al. that describes control part 23, which stores and displays a sensing signal corresponding to the operation of the fabrication systems. The control part does not display differences between the sensing signal and the control signal, nor does it display differences between manufacturing data sets and standardization data. Rather, “the control part 23 determines the normal state by comparing the sensing signal with the standard data, and drives an alarm part 29 to output an alarm signal. The alarm signal notifies the operator of an abnormal state, and the operator can take corrective action.” Column 8, lines 35-40. Thus, the alarm signal merely indicates the occurrence of an abnormal operation state but does not display differences of data sets as required by claim 1.

Elsewhere, Song et al. describes a control means having a display part. See, e.g., display part 28 of control means 15 in Fig. 4; display part 28a of control means 15a in Fig. 9; and display part 28b of control means 15b in Fig. 22. However, the display part is not used display any differences between electronic manufacturing data and manufacturing standardization data. Rather, the display part is used to display “the operation state of the fabrication systems analyzed by the control part.” See e.g., column 2, lines 64-66; column 4, lines 7-9; column 5, lines 11-12; column 7, lines 32-33; column 10, lines 11-14; column 10, lines 54-67; column 11, lines 1-4; and column 13, lines 37-40. The operation state is given by the sensing signal from the fabrication system, and not given by the control signal. See, e.g. Abstract. Therefore, the display does not, and cannot, display differences between at least one electronic manufacturing data set and a manufacturing standardization data.

Accordingly, because Song et al. does not describe the feature of a difference editor as recited by claim 1, Song et al. cannot anticipate claim 1. For at least that reason, therefore,

Applicant respectfully requests withdrawal of the rejections to claim 1 under 35 U.S.C. § 102(e) and to dependent claims 2-4, which depend from claim 1.

Independent claim 5 recites a method for managing electronics manufacturing data, in which the data comprises first and second sets. The method of claim 5 includes the step of “permitting observation of at least one difference between” a first data structure corresponding to the first set and a second data structure corresponding to the second set.

As described above, Song et al. does not describe any device for displaying differences between two sets of data. Nor is there any description of “permitting observation of at least one difference between” a first data structure and a second data structure. At most, the alarm signal described in Song et al., if visual, would permit an observation of an occurrence of an abnormal operation state of operation, but would not permit observation of a difference between data structures. Nor is the display part 28 of Song et al. described as being used to permit an observation of such differences.

The Examiner points to Fig. 18 and the text at column 12, lines 36-42 as disclosure for a graphical display (as recited in claim 9). Fig. 18 is a represents a comparison of etch rates before and after implementing shielding of the power supply of Fig. 17. However, Fig. 18 is not part of any display in the Song et al. system, nor is it in any way part of the Song et al. system or otherwise available to permit observation of at least one difference between a first data structure and a second data structure. Rather, Figs. 10-19 are merely included in the Song et al. patent merely to “illustrate examples of why it is beneficial to analyze the process failures using the diagnosis system of the present invention.” Column 11, lines 52-55.

Accordingly, Applicant requests withdrawal of the rejections under 35 U.S.C. § 102(e) to independent claim 5, and to dependent claims 6-10, which depend from claim 5.

Independent claim 11 recites a method for managing of electronics manufacturing data in which the data comprises non-local data and local data. Claim 11 has been amended to include the feature from claim 12 of “displaying differences between the local electronics manufacturing data and the non-local electronics manufacturing data.” Claim 12 has been cancelled without prejudice and claims 13-15 have been amended to change their dependency to claim 11.

As previously discussed with reference to claim 1, Song et al. does not describe any device for displaying differences between manufacturing data and standardization data. Applicant further submits that Song et al. likewise does not describe the feature of displaying

differences between local and non-local electronics manufacturing data. The alarm signal described in Song et al., even if implemented as a visual alarm, does not display differences as such, but rather merely indicates an occurrence of an abnormal operation state. Likewise, the display part 23 of control means 15 described in Song et al. does not display differences between data, and in any case does not display differences between local and non-local electronics manufacturing data. Accordingly, Applicant requests withdrawal of the rejections to claims 11, 13 and 14 under 35 U.S.C. §102(e)

2. Rejection of Claims 15-30 under 35 U.S.C. §103(a):

Claims 15-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Song et al. in view of Cullen et al.

Cullen et al. describes a method and apparatus for locating, inspecting and placing large leaded devices in a machine vision system. Cullen et al. does not describe comparing sets of manufacturing data or displaying their differences.

Claims 15-17 depend from claim 11 and include the feature of “displaying differences between the local electronics manufacturing data and the non-local electronics manufacturing data.” As discussed above with reference to claim 11, Song et al. does not describe that feature. Applicant respectfully submits that Cullen et al. also does not describe displaying differences between data of any kind, and that the combination of both references also does not teach or suggest the missing feature. Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §103(a) to claims 15-17.

Independent claim 18 recites a manufacturing system that includes, among other features, “a display displaying differences between the first set of manufacturing data [related to a product manufactured by a first assembly line] and the second set of manufacturing data” provided by a server. As discussed above, Song et al. does not describe a display for displaying differences between two sets of manufacturing data. Rather, the display part 28 described in Song et al. is for displaying “the operation state of the fabrication systems analyzed by the control part,” which is given by the sensing signal. Cullen et al. likewise, does not provide any suggestion for this missing feature. Accordingly, applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 18 and of dependent claims 19-22, which depend from claim 18.

Independent claim 23 recites a printed circuit board assembly line that includes “a display connected to the controller for comparing a first set of information regarding actual characteristics for the components and a second set of information regarding desired characteristics for the components.” Applicant respectfully submits that Song et al. does not describe such a display, but rather only describes a display for displaying the operation state of the fabrication systems that are being analyzed by the control part. Moreover, Cullen et al. provides no suggestion for such a display. Applicant accordingly requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 23 and of dependent claims 24 and 25, which depend from claim 23.

Independent claim 26 recites a method of displaying differences between a first set of electronics manufacturing data and a second set of electronics manufacturing data. The method of claim 26 includes the steps of “displaying the first set of electronics manufacturing data [which includes a list of components being used in an assembly line] on a section of a display,” and “displaying the second set of electronics manufacturing data on another section of the display.” The method also includes “displaying differences between the first and second set of electronics manufacturing data.”

As already asserted, the combination of Song et al. and Cullen et al. does not teach or suggest the feature of displaying differences between manufacturing data, and it further does not teach or suggest displaying two sets of such data on different sections of a display. Applicant accordingly requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 26 and of dependent claims 27 and 28, which depend from claim 26.

Independent claim 29 recites a method for manufacturing a printed circuit board. Claim 29 has been amended to clarify that the comparison is made between the first set of electronics manufacturing data with a second set of electronics manufacturing data “on the display.”

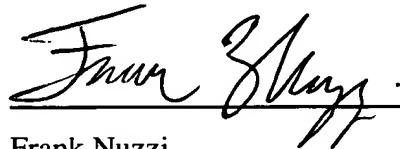
Applicant respectfully submits that Song et al. and Cullen et al. do not teach or suggest the feature of comparing sets of manufacturing data on a display. As already discussed, the display in Song et al. does not display differences between sets of manufacturing data. Song et al. furthermore does not teach or suggest the feature of comparing two sets of manufacturing data on the display, and does not teach the step of conveying a printed circuit board. Cullen et al. adds nothing to Song et al. with regard to the step of comparing two sets of manufacturing data

on a display. Applicant accordingly requests withdrawal of the rejections under 35 U.S.C. §103(a) of independent claim 29 and of dependent claim 30, which depends from claim 29.

CONCLUSION

For at least the reasons stated above, Applicant requests withdrawal of the rejections to claims 1-11 and 13-30. It is respectfully submitted that the application is now in condition for allowance.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Frank Nuzzi", written over a horizontal line.

Frank Nuzzi
Reg. No. 42,944

Senior Intellectual Property Counsel
Siemens Corporation
170 Wood Avenue South
Iselin, New Jersey 08830
Tel.: (732) 321-3002